0034

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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December 1, 1995

Charles Reynolds
Co-Op Mining Company
P.O. Box 1245
Huntington, Utah 84528

Re: Name of Amendment, Co-Op Mining Company, Bear Canyon Mine, ACT/015/025-95J, Folder #2, Emery County, Utah

Dear Mr. Reynolds:

The referenced amendment for the Bear Canyon Mine is approved effective September 25, 1995. Attached for your mining and reclamation plan is a copy of your approved amendment. If you have any questions, regarding this approval please contact me.

Sincerely,

Joseph C. Helfrich
Permit Supervisor

Enclosure
cc:/enc J. Fulton, WRCC
M. Page, Water Rights, Price
D. Ariotti, DEQ, Price
B. Bates, Wildlife, Price
PFO

a:015.025wpd

LIST OF TABLES

sources encountered until there is data to meet the two yr, four samples per annum requirement. New significant occurrences within the present permit area will be promptly included in the sampling program, as specified by state requirements.

Existing monitoring stations are shown on Plate 7-4 and listed below.

1.	Under Ground Seep*	-	SBC-1
2.	Portal Well**	-	SBC-2
3.	Creek Well	-	SBC-3
4.	Huntington Spring	-	SBC-4
5.	Birch Spring	-	SBC-5
6.	COP Development Spring	-	SBC-6
7.	Sump #3***	-	SBC-9
8.	Sump #4****	-	SBC-10

* SBC-1 dried up in early 1988, and monitoring was discontinued.

** SBC-2 dry from 1987. Caved in, lost (2) quarters and relocated in 1991.

*** Sump #1 (SBC-7) and #2 (SBC-8) dried up and discontinued in 1990.

**** Sump #4 (SBC-10) flow first measured Dec. 1991. Monitoring initiated Jan 1992. In July, 1995, retreat mining progressed passed this sump, making it inaccessible. Monitering was discontinued in August, 1995.

The sampling matrix for each of the existing monitoring stations during the operational phase of mining is included in Table 7.1-8.

Temporary Drill Hole Seals. Within 30 days of completion, drill holes utilized for groundwater monitoring will be sealed in a nonpermanent fashion by installing PVC surface casing with a threaded cap for access.

Table 7.1-6 Ground Water Sampling

	Baseline Monitoring	Operational Monitoring	Postmining Monitoring
Type of Sampling site	Springs, In-Mine Flows, Boreholes, Observation Wells.	Springs, In-Mine Flows, Boreholes, Observation Wells.	Springs, Observation Wells, Mine discharge points.
Field Measurements and Parameters (Table 7.1-7)	Water levels and/or flow and water quality	Water levels and/or flow and water quality	Water levels and/or flow and water quality
Sample Frequency Each site	Quarterly Adequate to describe seasonal variation. Monthly recommended for more accurate description of seasonal variation.	Quarterly samples springs and wells; In-mine flows at initial interception, quarterly after 1st 30 days until diminished. From sumps and/or mine discharge points quarterly or as required by UPDES.	Quarterly based on potential impact; or once per annum (spring sampling at low flow).
Sampling Duration	Two years (one complete year of data before submission of PAP).	Every year until two years after surface reclamation activities have ceased.	Until termination of bonding.
Type of Data Collected and Reported	Wells and Boreholes: Water quality, water level of flow logs, collar elevation; ground elevations; screened interval; formation where completed; depth. Springs: Water quality, location, and flow.	Wells and boreholes: Water quality, water level or flow. Springs: Flow and water quality with one sample taken at low flow.	Wells and Boreholes: Water quality, water level or flow. Springs: Flow, water quality with one sample taken at low flow. Phase I: Whether pollution of surface and subsurface water is occurring, the probability of future occurrence, and estimated cost of abatement. Phase II: After revegetation has been established and contributing suspended solids to streamflow or runoff outside the premit area is not excess of the requirements set by UCA 40-10-17(j) of the Act and by R645-301-751. Phase III: Until reclamation requirements of the Act and the permit are fully met.
Comments	Springs and seeps should be measured from source at high and low flow periods.	During the year preceding repermitting. Springs, one water quality sample at low flow for baseline parameters. Other sites, one sample for baseline paramter.	

Table 7.1-8 Water Monitoring Matrix

Operational Phase of Mining

Location	Jan	Feb	Mar	Apr	May	June	July	Aug(3)	Sept	Oct	Nov	Dec
Upper Bear Creek BC-1		oper.			oper.	field	field	oper.	field	oper.		
Lower Bear Creek BC-2		oper.			oper.	field	field	oper.	field	oper.		
Rt Fork Bear Cr. BC-3		oper.			oper.	field	field	oper.	field	oper.		
Creek Well SBC-3		oper.			oper.			oper.		oper.		
Huntington Spr. (4) SBC-4		oper.			oper.			oper.		oper.		
Birch Spring (4) SBC-5		oper.			oper.			oper.		oper.		
Co-Op Dev Spring SBC-6		oper.			oper.			oper.		oper.		
1st N. Bleeder #42 SBC-9		oper.			oper.			oper.		oper.		
2nd W Mon. Well DH-1A		oper.			oper.			oper.		oper.		
3rd W Mon. Well DH-2		oper.			oper.			oper.		oper.		
3rd W bldr Well DH-4		oper.			oper.			oper.		oper.		

Notes:

1. See Tables 7.1-7 and 7.2-5 for listing of water quality monitoring parameters.
2. oper. = operational
   base. = baseline
3. Baseline parameters taken in August of year 5 prior to each permit renewal.
4. SBC-4 and SBC-5 shall also be tested for oil and grease.

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